

WHAT IS CLAIMED IS:

1. An electronic apparatus which can be powered by a battery and is configured to perform radio communications with another apparatus, comprising:

5 battery capacity detection means for detecting a  
remaining capacity of the battery;

radio signal transmission means for transmitting a radio signal at one of a first output level and a second output level lower than the first output level; and

10 and

control means for switching the output level of the radio signal transmitted by the radio signal transmission means from the first output level to the second output level, when the remaining capacity of the battery detected by the battery capacity detection means becomes lower than a predetermined value.

2. The electronic apparatus according to claim 1, further comprising:

20 setting means for controlling whether or not the output level is switched based on the remaining capacity of the battery.

3. The electronic apparatus according to claim 2,  
wherein said control means includes means for  
outputting a warning sound when the control means  
detects that the remaining capacity of the battery  
becomes lower than the predetermined value in a state  
where the setting means is so set that the output level

is not switched in accordance with the remaining capacity of the battery.

4. The electronic apparatus according to claim 1, wherein said radio signal transmission means performs 5 radio communications conformable to Bluetooth(R) standards.

5. The electronic apparatus according to claim 4, wherein said radio signal transmission means uses class 10 2 when the radio signal is output at the first output level, and uses class 3 when the radio signal is output at the second output level.

6. The electronic apparatus according to claim 1, wherein said electronic apparatus further comprises a headset.

15 7. An electronic apparatus which can be powered by a battery and is configured to perform radio communications with another apparatus, comprising:

battery capacity detection means for detecting a remaining capacity of the battery;

20 audio data reproduction means for reproducing audio data with one of first sound quality and second sound quality lower than the first sound quality; and

control means for switching the sound quality of the audio data reproduced by the audio data 25 reproduction means from the first sound quality to the second sound quality, when the remaining capacity of the battery detected by the battery capacity detection

means becomes lower than a predetermined value.

8. The electronic apparatus according to claim 7, further comprising:

5 setting means for controlling whether or not the sound quality is switched based on the remaining capacity of the battery.

9. The electronic apparatus according to claim 8, wherein said control means includes means for outputting a warning sound when the control means 10 detects that the remaining capacity of the battery becomes lower than the predetermined value in a state where the setting means is so set that the sound quality is not switched in accordance with the remaining capacity of the battery.

15 10. The electronic apparatus according to claim 7, wherein said audio data reproduction means uses a 5.1-channel mode when the audio data is reproduced with the first sound quality, and uses a 2-channel mode when the audio data is reproduced with the second sound quality.

20 11. The electronic apparatus according to claim 7, wherein said electronic apparatus further comprises a headset.

12. An electronic apparatus which can be powered by a battery and is configured to perform radio 25 communications with another apparatus, comprising:

battery capacity detection means for detecting a remaining capacity of the battery;

radio signal transmission means for transmitting a radio signal at one of a first output level and a second output level lower than the first output level;

5 audio data reproduction means for reproducing audio data with one of first sound quality and second sound quality lower than the first sound quality;

first control means for switching the output level of the radio signal transmitted by the radio signal transmission means from the first output level to the second output level, when the remaining capacity of the battery detected by the battery capacity detection means becomes lower than a predetermined value;

15 second control means for switching the sound quality of the audio data reproduced by the audio data reproduction means from the first sound quality to the second sound quality, when the remaining capacity of the battery detected by the battery capacity detection means becomes lower than a predetermined value; and

20 setting means for independently selecting at least one of the first and second control means.

13. An electronic apparatus powered by a battery and configured to perform radio communications with another apparatus, comprising:

25 a battery capacity detector for detecting a remaining capacity of the battery;

a radio signal transmitter for transmitting

a radio signal at one of a first output level and a second output level lower than the first output level; and

5 a control device for switching the output level of the radio signal transmitter from the first output level to the second output level, when the remaining capacity of the battery detected by the battery capacity detector becomes lower than a predetermined value.

10 14. The electronic apparatus according to claim 13, further comprising:

a setting device for controlling whether or not the output level is switched based on the remaining capacity of the battery.

15 15. The electronic apparatus according to claim 14, wherein said control device includes an warning sound generator for generating a warning sound when the control device detects that the remaining capacity of the battery becomes lower than 20 the predetermined value in a state where the setting device is so set that the output level is not switched in accordance with the remaining capacity of the battery.

25 16. The electronic apparatus according to claim 13, wherein said radio signal transmitter performs radio communications conformable to Bluetooth(R) standards.

17. The electronic apparatus according to  
claim 16, wherein said radio signal transmitter uses  
class 2 when the radio signal is output at the first  
output level, and uses class 3 when the radio signal is  
5 output at the second output level.

18. The electronic apparatus according to  
claim 13, wherein said electronic apparatus further  
comprises a headset.

10 19. An electronic apparatus which can be powered  
by a battery and is configured to perform radio  
communications with another apparatus, comprising:

a battery capacity detector for detecting a  
remaining capacity of the battery;  
an audio data reproduction device for reproducing  
15 audio data with one of first sound quality and second  
sound quality lower than the first sound quality; and  
a control device for switching the sound quality  
of the audio data reproduced by the audio data  
reproduction device from the first sound quality to the  
20 second sound quality, when the remaining capacity of  
the battery detected by the battery capacity detector  
becomes lower than a predetermined value.

20. The electronic apparatus according to  
claim 19, further comprising:

25 a setting device for controlling whether or not  
the sound quality is switched based on the remaining  
capacity of the battery.

21. The electronic apparatus according to  
claim 20, wherein said control device includes  
a warning sound device for generating a warning sound  
when the control device detects that the remaining  
5 capacity of the battery is lower than the predetermined  
value in a state where the setting device is so set  
that the sound quality is not switched in accordance  
with the remaining capacity of the battery.

22. The electronic apparatus according to  
10 claim 19, wherein said audio data reproduction device  
uses a 5.1-channel mode when the audio data is  
reproduced with the first sound quality, and uses  
a 2-channel mode when the audio data is reproduced with  
the second sound quality.

15 23. The electronic apparatus according to  
claim 19, wherein said electronic apparatus further  
comprises a headset.

24. An electronic apparatus which can be powered  
by a battery and is configured to perform radio  
20 communications with another apparatus, comprising:

a battery capacity detector for detecting  
a remaining capacity of the battery;  
a radio signal transmitter for transmitting  
a radio signal at one of a first output level and  
25 a second output level lower than the first output  
level;  
an audio data reproduction device for reproducing

audio data with one of first sound quality and second sound quality lower than the first sound quality;

5 a first control device for switching the output level of the radio signal transmitter from the first output level to the second output level, when the remaining capacity of the battery detected by the battery capacity detector is lower than a predetermined value;

10 second control device for switching the sound quality of the audio data reproduced by the audio data reproduction device from the first sound quality to the second sound quality, when the remaining capacity of the battery detected by the battery capacity detector becomes lower than a predetermined value; and

15 a setting device for independently selecting at least one of the first and second control device.

25. A system control method for an electronic apparatus which can be driven by a battery and comprises a radio signal transmitter for transmitting a radio signal at one of a first output level and a second output level lower than the first output level, said system control method comprising the steps of:

25 detecting a remaining capacity of the battery; and switching the output level of the radio signal transmitted by the radio signal transmitter from the first output level to the second output level, when

the remaining capacity of the battery detected in the battery capacity detection step becomes lower than a predetermined value.

26. The system control method as recited in  
5 claim 25 wherein the electronic apparatus further comprises an audio data reproduction device for reproducing audio data with one of first sound quality and second sound quality lower than the first sound quality, said system control method further comprising  
10 the steps of:

detecting a remaining capacity of the battery; and  
switching the sound quality of the audio data reproduced by the audio data reproduction device from the first sound quality to the second sound quality,  
15 when the remaining capacity of the battery detected in the battery capacity detection step becomes lower than a predetermined value.

27. A system control method for an electronic apparatus which can be powered by a battery and  
20 comprises an audio data reproduction device for reproducing audio data with one of first sound quality and second sound quality lower than the first sound quality, said system control method comprising the steps of:

25 detecting a remaining capacity of the battery; and  
switching the sound quality of the audio data reproduced by the audio data reproduction device from

the first sound quality to the second sound quality, when the remaining capacity of the battery detected in the battery capacity detection step becomes lower than a predetermined value.